

**Draft
Environmental Assessment**

**Submitted by:
The City of Alton
Madison County, Illinois
Marina Breakwater Extension
Mississippi River, Mile 202.5**

**Submitted to:
Region 3
Division of Federal Aid
United States Fish and Wildlife Service
Boating Infrastructure Grant Program**

June 2004

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1.0 Purpose and Need

1.1 Purpose

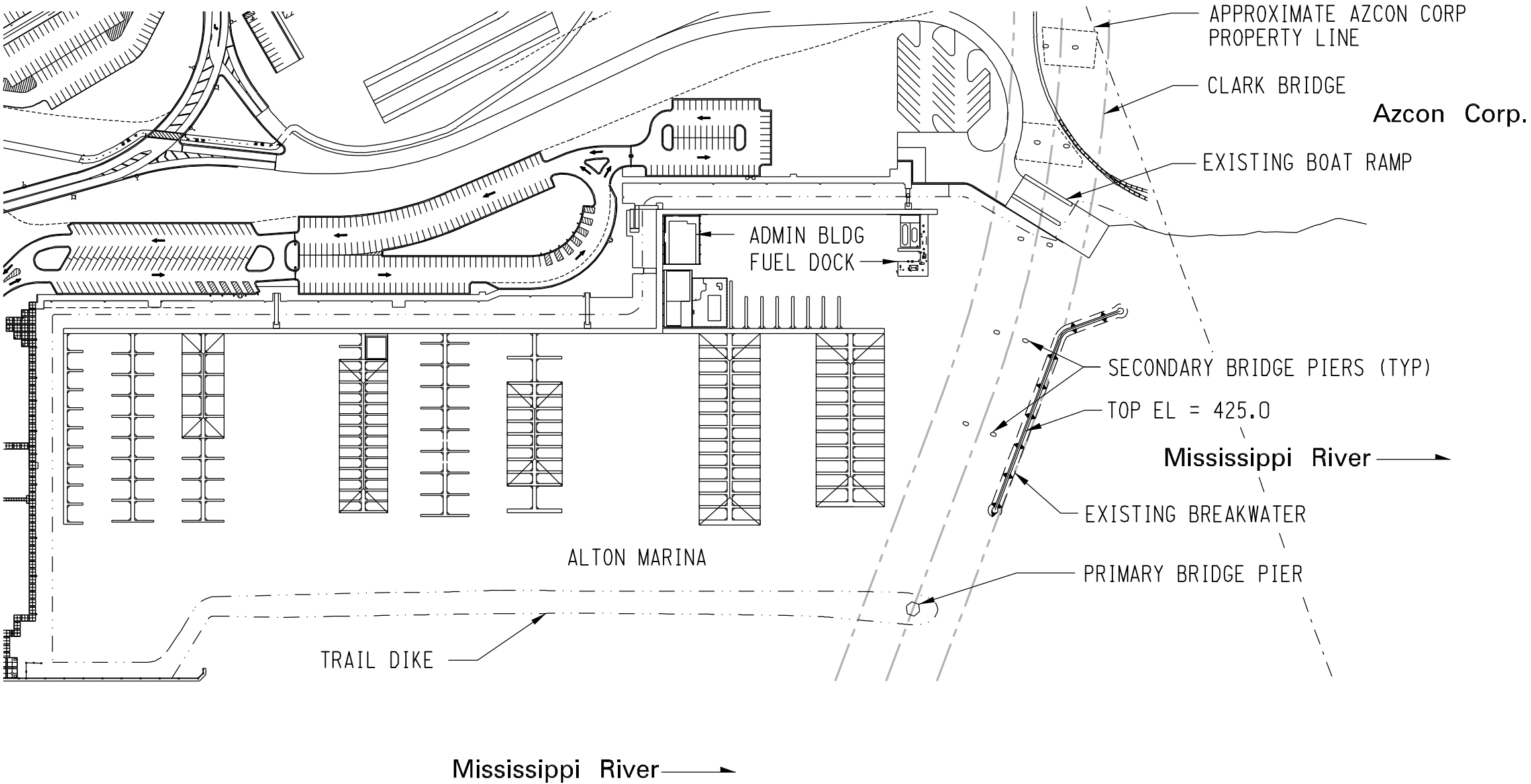
The purpose of this Environmental Assessment (EA) is to meet the Phase 1 requirements of the Boating Infrastructure Grant (BIG-04-01). The EA has been prepared in accordance with NEPA (42 U.S.C. 4321-4347) and 40 CFR 1500-1508; 516 DM 1-7 as revised by 30 AM 2-3 and 550 FW 1-2. This assessment addresses the extension of the breakwater to the shoreline to mitigate siltation of the marina basin. Portions of the grant application are within the bounds of the previous Environmental Assessment and Finding of No Significant Impact (FONSI) prepared by Booker Associates, Inc. Specifically, the 36 transient slips and the fuel station were permitted in the original design of the marina.

1.2 Need

Siltation is occurring in front of the boat ramp and as far into the marina as the fuel dock. Dredging has been performed at the ramp and at the fuel dock. The boat ramp and fuel dock are both key elements for the marina complex and receive heavy use throughout the boating season. The fuel dock is a major consideration in the viability of the Alton Marina as a transient boating destination. Siltation inhibits use of these facilities, particularly during periods of low water level. The breakwater extension is needed:

See Figure 1

City of Alton, Illinois



Alton Marina Layout
Figure 2

- to provide reliable river access to the boating public and to eliminate the need for frequent dredging.
- to provide maximum maneuverability for launching and retrieving.
- to avoid building the breakwater end onto the neighboring land.
- to minimize costs.

1.3 Decisions that Need to be Made

The USFWS's Regional Director must select one or more of the alternatives and decide whether any of them will result in a significant impact upon the human environment, necessitating the need for an Environmental Impact Statement (EIS) or if a FONSI is appropriate.

1.4 Background

Alton marina lies on the north bank of the Mississippi River at River Mile 202.5 (miles above the confluence of the Mississippi River with the Ohio River). The project area is shown on Figure 1 and the existing marina on Figure 2. The marina was constructed and placed in operation in 1996. Following completion, it was apparent that the marina was subject to significant wave activity from the southeast quadrant which threatened the marina facilities and the boats moored in the basin. The primary source of these waves was the wake of upriver- bound barge traffic. Downriver traffic and wind were secondary wave sources. The upstream navigation path of barge traffic from Lock and Dam 26 places these vessels within close proximity to the marina's basin entrance as they accelerate up to full speed to resume their journey north.

The southern boundary of the marina basin is formed by a 1,300 foot long rubble mound breakwater. This breakwater was constructed by the U.S Army Corps of Engineers (USACE) as part of their program to reconstruct Lock and Dam 26. This breakwater is known as the Trail Dike and is essentially an extension of the old lock chamber wall. The Trail Dike is shown on Figure 2. The Trail Dike is responsible for the creation of a large silt island that has formed downstream of the marina. The Trail Dike restricts river flow along the Alton side. Where the river then widens abruptly at the downstream end of the Trail Dike, the sudden decrease in current velocity has caused sediment deposition and the formation of the island. The USACE has confirmed that this deposition phenomenon is an unintended consequence of the dike construction.

Subsequent to the construction of the Trail Dike, a second breakwater was constructed in 1998, perpendicular to shore, across the downstream end of the marina to protect the marina from wave action. This second “wave protection dike” is a 400 foot long, rubble mound (rip rap) dike structure located as shown on Figure 2. This dike has been effective at protecting the marina from wave action.

The extent of the silt island has increased to the point where some river flow is running upstream between the island and the north shore. This “backflow” is entering the marina between the north end of the “wave protection dike” and the north shore and, as the flow velocity slackens, silt deposits in front of the boat ramp and as far into the marina as the fuel dock.

The City of Alton proposes to extend the existing breakwater to the shore to provide a closure in the breakwater and prevent silt from entering the marina and settling in front of the boat ramp and on into the marina as far as the fuel dock. With the “dead end” created by the proposed breakwater closure, the silt deposition problem is expected to cease. The silt will remain in suspension and be carried away by current. The gap between the end of the breakwater and the shore is approximately 125’. Figure 3 is a photo looking downstream/southeast down the boat ramp with the Illinois shoreline on the left and the end of the existing breakwater on the right. The chain link fence on the bank is on the City of Alton/Azcon property line. The shadow in the photo is cast by the Clark highway bridge overhead.

In 1978, a law was enacted that provided \$3 million in federally matching funds for recreational development in the Alton Pool. This action was part of mitigation funding for the construction of the second lock at Lock and Dam No. 26. Originally this funding was only available for development within the State of Missouri but the law was amended for the matching funds to be used in Illinois.

The City of Alton, in conjunction with the Illinois Department of Conservation (IDOC), moved to secure these funds in 1991 for the Alton Marina/Riverfront District project. A subsequent law later authorized Alton to use this funding without IDOC sponsorship.

See Figure 3

A master planning development process began in February, 1991 that included active involvement by representatives from government, labor, tourism, historic preservation, industry, environmental groups and commercial interests. The result of this effort was the issuance of the *1991 Marina/Riverfront District Master Plan for the City of Alton, Illinois*.

This plan presented a conceptual development for active and passive recreational facilities, both on shore and in the water, along nearly one mile of Alton riverfront. The marina and the boat ramp were elements within this plan that are now available to the public.

Thus far, 240 marina slips are available. The anticipated total “build-out” is 330 slips.

As indicated previously, it became apparent following completion of the marina that wave activity from the southeast quadrant was threatening the marina facilities and the boats moored in the basin. The primary source of these waves was the wake of upriver bound barge traffic. Downriver traffic and with wind-generated waves were secondary wave sources. To protect the marina from these waves, a 400’ long, rubble mound breakwater was constructed in 1998.

2.0 Alternatives, Including the Proposed Action

2.1 Alternatives not Considered for Detailed Analysis

Consideration was initially given to installing a floating breakwater in lieu of a more permanent, more solid type of structure. Cost was a prime consideration and a floating barrier with a hanging curtain would be a relatively inexpensive alternative. This alternative was not pursued for the following reasons:

- Not durable/considered a short-term solution
- High/frequent maintenance primarily associated with anchoring problems
- Not effective/current would sweep silt beneath the curtain
- Would sag toward the boat ramp inhibiting boat launching

2.2 Alternatives Carried Forward for Detailed Analysis

The three action alternatives analyzed below represent three different breakwater configurations and employ design features that would fulfill both purpose and need for this project. Since the preferred alternative (Alternative 3) is considerably more expensive, the City may have to construct one of the two less expensive rubble mound alternatives. It may be necessary to dredge one last time before constructing any of the three action alternatives.

Alternative 3 (Sheet Pile Wall) is recommended as the “Proposed Alternative” because it provides ample maneuvering space for launching boats and can be constructed without encroaching on neighboring property. However, all of the alternatives are workable breakwater extension configurations and none have any environmental impacts of any real consequence.

2.2.1 Alternative 1 (Straight Dike). Alternative 1 is the first of three action alternatives that are all similar in concept and serve the same purpose.

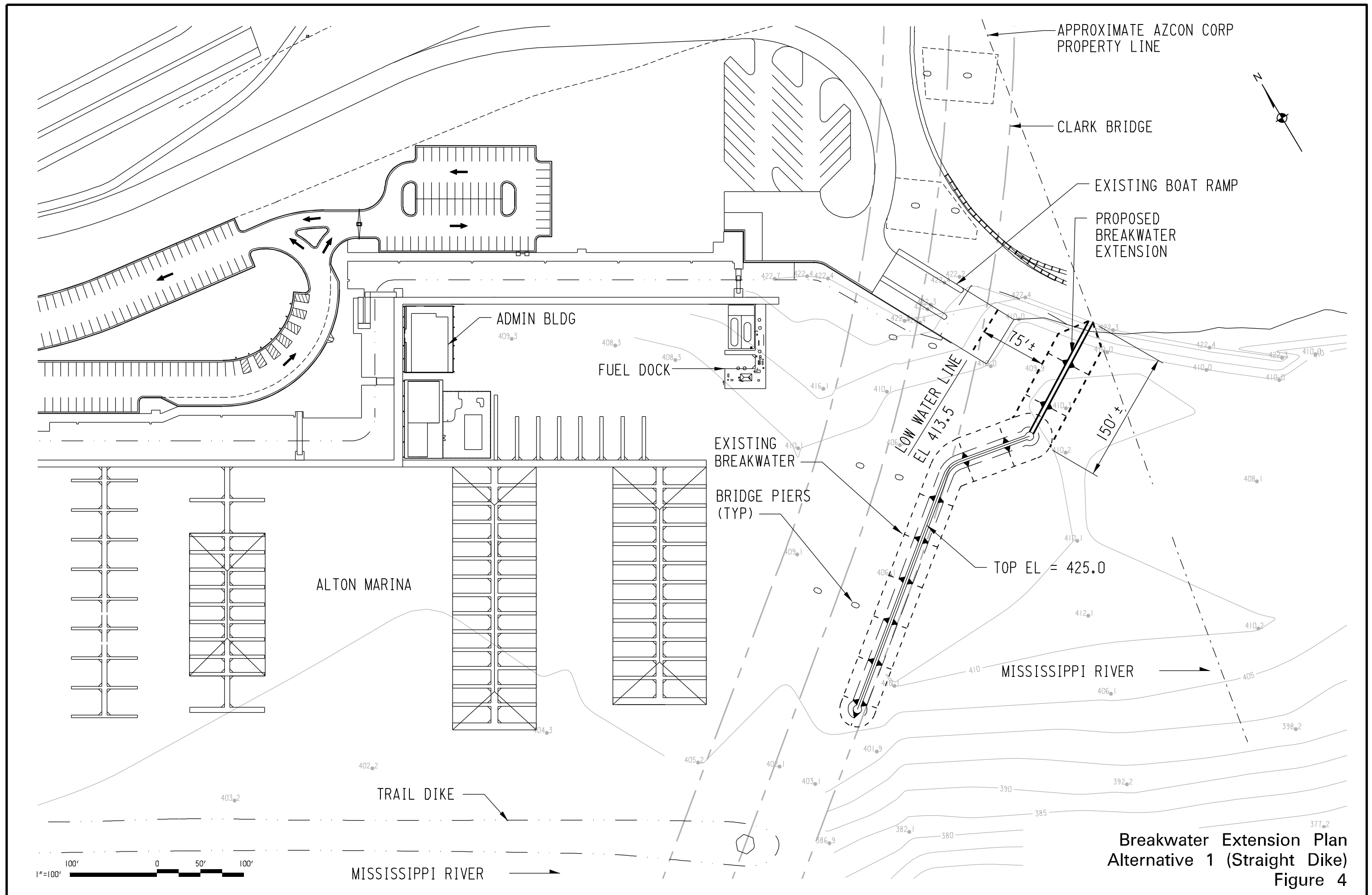
This alternative is a rubble mound structure that would extend in a straight line from the end of the existing breakwater to shore as shown on Figure 4. It would be constructed of well graded shot rock (rip rap) in the range of 3 to 24 inches. The design is based on a trapezoidal section with a top width of 5 feet and side slopes of 1.5 horizontal to 1.0 vertical. A typical section is shown on Figure 5. This design is identical to that used for the existing breakwater.

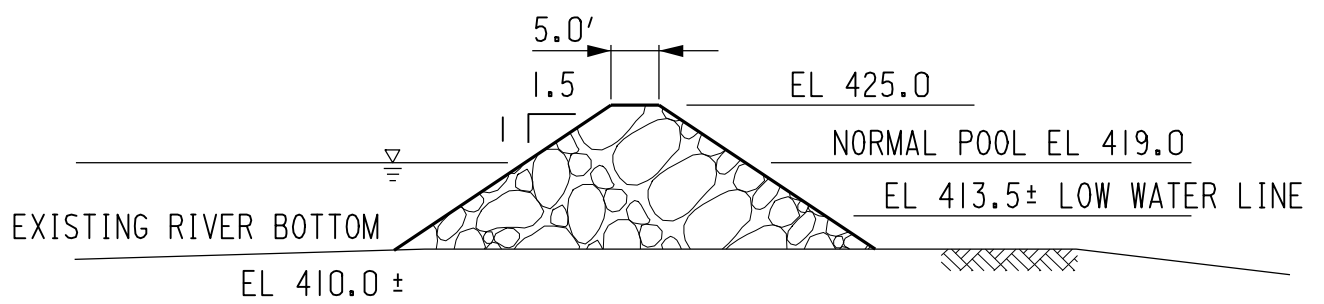
The breakwater would intersect the shore inside City property to avoid the need to interface/coordinate with the adjacent property owner. The breakwater could be constructed using dump trucks that would back out and discharge their loads as they progressed out from shore. The structure could also be built using a small barge and crane, anchored in the river.

This alternative is workable and the least expensive alternative, but it would only provide launched boats a maneuvering space of approximately 75 feet from the low water line on the ramp to the toe of the breakwater during periods of low water (see Figure 4). The estimated construction cost is \$100,000.

As a variation of this alternative, the breakwater could be constructed in an arc to provide more maneuvering room while remaining on City property.

2.2.2 Alternative 2 (Dog-Leg Dike). Alternative 2 is also a rubble mound breakwater with identical design features as Alternative 1. However, this alternative would be configured with a “dogleg” to optimize maneuvering room for the launched boats as shown on Figure 6. This configuration would provide approximately 130 feet from the low water line on the ramp to the toe of the breakwater slope. The near shore segment of the breakwater would be perpendicular to the boat ramp.



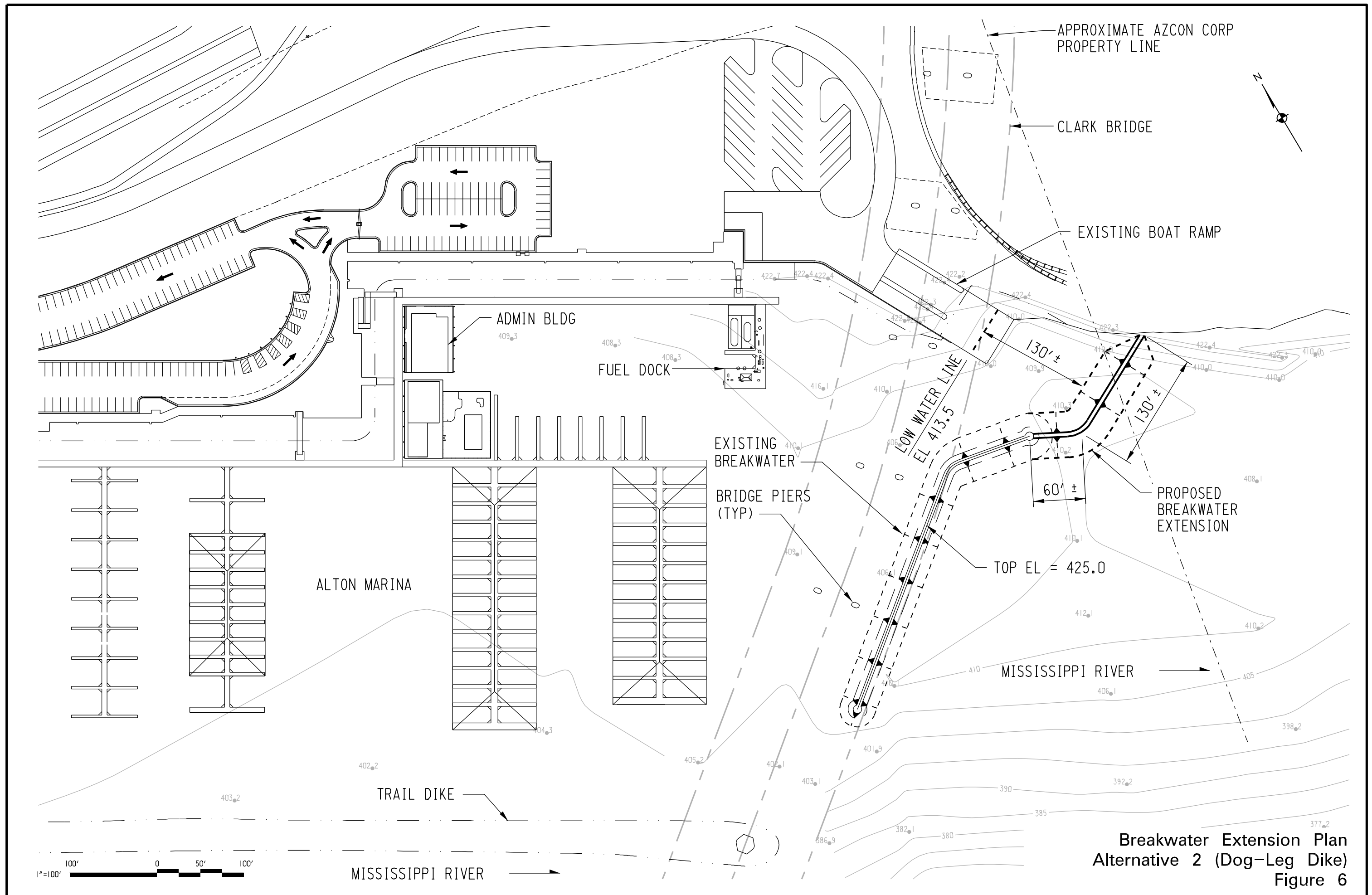


SECTION

SCALE: 1" = 20'



Breakwater Section
Figure 5



It could also be constructed from shore or from a barge as with Alternative 1.

The undesirable feature of this configuration is the necessity to construct on neighboring property. The extent of construction on Azcon property could be varied by changing the clearance distance from the boat ramp. This alternative would require approximately 25% more rip rap than Alternative 1 and would be incrementally more expensive. The estimated construction cost is \$120,000.

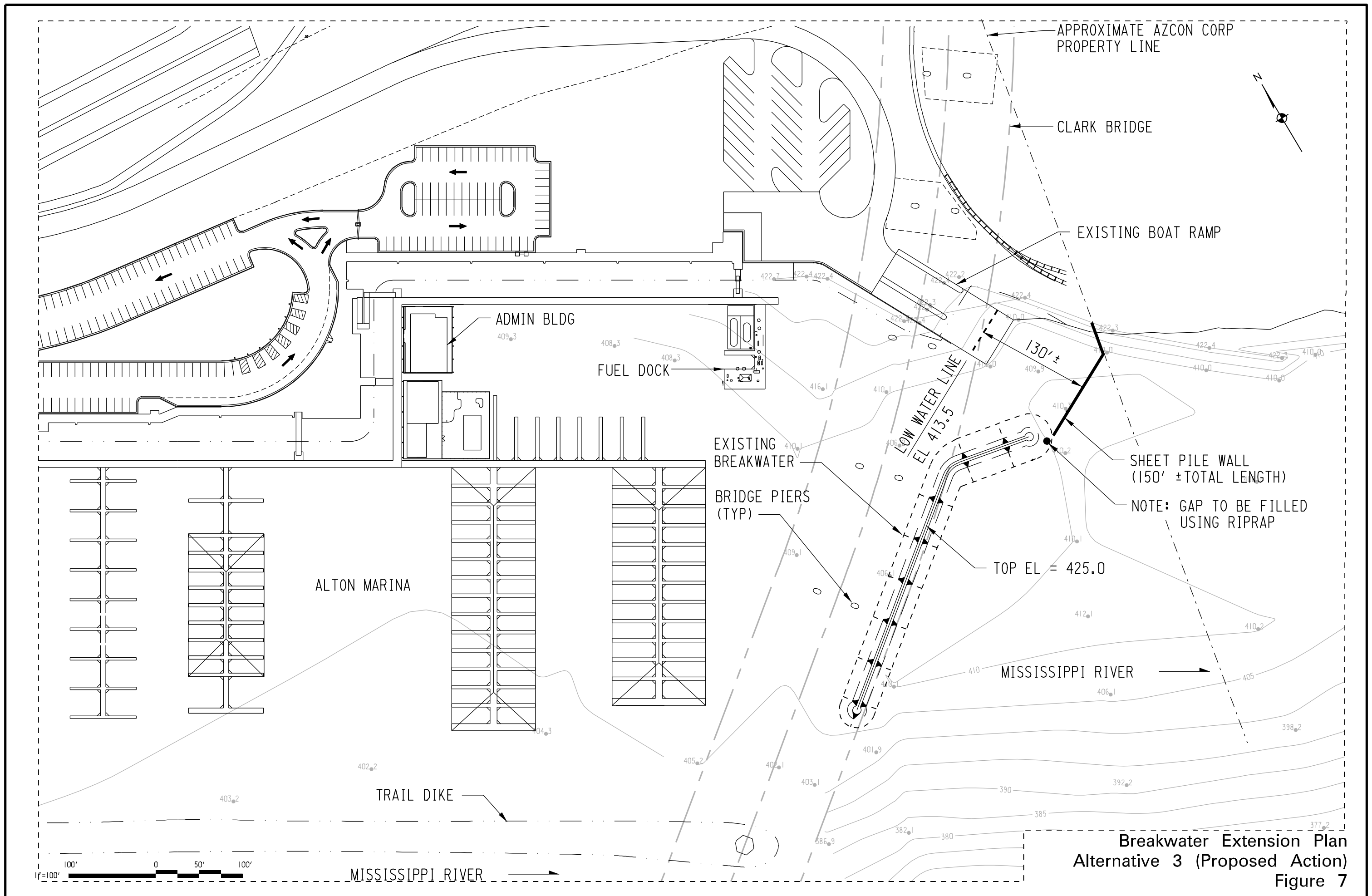
2.2.3 Alternative 3 (Proposed Action). Alternative 3 is a vertical sheet pile wall that could be constructed entirely on the City side of the property line and provide 130 feet clearance as with Alternative 2. A plan showing this alternative is included as Figure 7. Figure 8 shows a section view of the wall. The top of the wall would be at the same elevation as the top of the existing rip rap breakwater. Sheet piling cannot be driven through the existing rip rap dike, but it will not be necessary to remove any existing rubble. The piling would end at the toe of the existing breakwater and rip rap added at the end of the breakwater to close the gap.

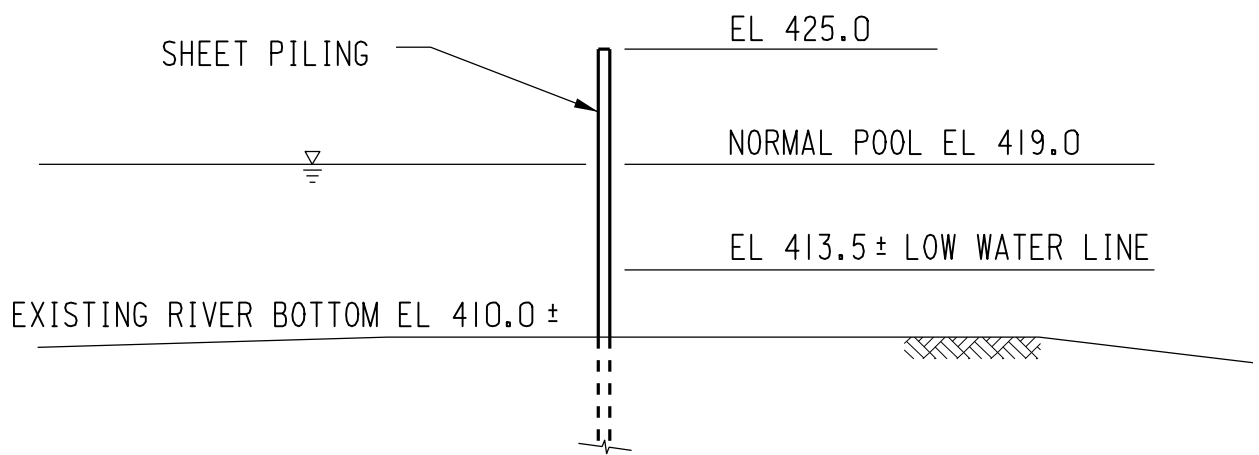
Since water elevation will always be the same on both sides of the wall, a single line of sheet piling will be structurally adequate. The wall will not be exposed to strong currents, heavy wave action or barge traffic.

The primary negative aspect of this alternative is cost. A sheet pile wall would cost nearly twice as much as an equal length of rubble mound dike. Also, the sheet piling cannot be installed from shore and would have to be driven by a pile driver on an anchored construction vessel. The estimated construction cost is \$185,000.

2.2.4 No Action Alternative. The No Action Alternative is to not extend the existing breakwater. The marina would remain unaltered and the boat ramp would function as it does currently. Silt would continue to enter the marina through the dike opening and settle in front of the ramp and the fuel dock. Launched boats would continue to be inconvenienced by the silt deposits during low water and regular dredge maintenance would be required at the ramp and at the fuel dock.

Boaters would be reluctant to use the ramp during low water in the summer boating season and be less likely to utilize marina amenities or to take advantage of the numerous





SECTION

SCALE: 1" = 10'



Sheet Pile Wall Section
Figure 8

recreational, cultural, and historical opportunities that exist in this reach of the river. Local and transient boaters would also be reluctant to use the fuel dock because of silt build-up at this facility.

Annualized dredging cost would be approximately \$30,000.

2.3 Summary of Alternative Actions Table

Table 1 Alternative Actions Summary

	Alternative			
	1 (Straight Dike)	2 (Dog-Leg Dike)	3 (Prop. Action)	No Action
Length of Dike (Ft)	150	190	20	-
Rock Volume (CY)	2,300	2,900	125	-
Length of Wall (Ft)	-	-	150	-
Maneuvering Room (Ft)	75	130	130	-
Dredging Needed	Yes (one time)	Yes (one time)	Yes (one time)	Yes (annually)
End on Neighboring Property	No	Yes	No	
Estimated Construction Cost (\$)	100,000	120,000	185,000	-
Annual Dredging Cost (\$)	--	--	--	\$30,000

Source: Stanley Consultants, Inc.

3.0 Affected Environment

3.1 Physical Characteristics

Alton Marina lies on the north bank of the Mississippi River at about River Mile 202.5. The boat ramp and the existing rubble mound breakwater are located at the downstream end of the marina. The project's location is shown on both Figures 1 and 3. The existing marina, boat ramp and breakwater are shown on Figure 2. The marina facility and the project area are in the pool formed by the new Lock and Dam 26 which spans the river approximately two miles downstream from the marina. The new lock and dam were placed in operation in 1990 and

replaced the old lock and dam that were located immediately upstream of the marina. Most of the original lock and dam structure has been removed.

The marina basin was excavated “in the dry” prior to inundation from the modified Lock and Dam 26 pool. Excavation took the bottom of the marina basin to a maximum elevation of 408. This provided a depth of 11 feet throughout the marina. The 1993 Mississippi River flood deposited deep sand throughout the marina basin and in the vicinity of the boat ramp. Dredging was required to return the basin depths to pre-flood elevations. Following dredging, bottom elevations throughout the basin and project area are in the range of 408 to 410 feet. Normal pool elevation is 419.

A 1,300 foot long rubble mound breakwater was constructed parallel to shore by the US Army Corps of Engineers as part of the lock and dam project. This breakwater, known as the Trail Dike, forms the southern boundary of the marina. The construction of the Trail Dike left only the downstream end of the marina basin open to the river. The open end was partially closed by the construction of the breakwater in 1998. This breakwater prevents waves, generated by wind and barge traffic, from entering the marina unimpeded and damaging moored boats and marina facilities.

The marina currently has 240 slips. Total anticipated “build-out” is 330 slips. Larger boats are generally accommodated toward the downstream end of the marina. The marina is equipped with a marina store, fuel dock, and waste pumpout stations, all housed on floating pontoons.

3.2 Biological Environment

3.2.1 Habitat/Vegetation. The entire project area has been urbanized for 150 years. The riverfront at the marina has historically been occupied by industry and soils on the riverfront at the marina were man-made deposits from the early part of the 20th century. Natural vegetation is non-existent and open spaces consist of lawn grasses and sparse ornamental plantings. The open areas served as lay down areas during construction of the marina. A very narrow band of vegetation exists in a waste area along the bank at the boat ramp. This vegetation is of little or no biological consequence and can be seen in the photo in Figure 3.

3.2.2 Threatened, Endangered, and Candidate Species. Six federally-listed endangered and threatened species have ranges that include the project area.

Table 2 Federally-listed Endangered and Threatened Species

Classification	Common Name (Scientific Name)	Habitat
Endangered	Gray bat (<i>Myotis grisescens</i>)	Caves; feeding rivers/ reservoirs adjacent to forests
Endangered	Indiana bat (<i>Myotis sodalis</i>)	Caves, mines; small stream corridors with well developed riparian woods; upland and bottomland forests
Threatened	Decurrent false aster (<i>Boltonia decurrens</i>)	Disturbed alluvial soils
Threatened	Bald eagle (<i>Haliaeetus leucocephalus</i>)	Breeds and winters along major rivers and large reservoirs
Endangered	Least tern (<i>Sterna antillarum</i>)	Bare alluvial and dredge spoil islands
Endangered	Pallid sturgeon (<i>Scaphirhynchus albus</i>)	Rivers

Source: U.S. Fish & Wildlife Service

There is no designated critical habitat in the project area. Suitable habitat for the gray bat, Indiana bat, decurrent false aster, least tern and pallid sturgeon is not known to occur in the project area. The threatened bald eagle is known to winter in the vicinity of the project. During the winter the eagles feed on fish taken in open water areas. They roost at night in large trees in protected woodlands usually back inland from the river. They perch/rest in large riparian trees and nest in large trees with unobstructed views. There are no known roost sites near the project and no large riparian trees for nesting or resting.

The State-listed endangered lake sturgeon (*Acipenser fulvescens*) and threatened butterfly mussel (*Ellipsaria lineolata*) occur downstream of the project but no suitable habitat exists for either species at the site. (Consultation Agency Action Report, Illinois Department of Natural Resources).

3.2.3 Other Wildlife Species. The project area exhibits almost total development providing minimal habitat for wildlife. Terrestrial habitat is nearly non-existent and only common species of birds and small mammals that adapt readily to human disturbance are likely present near the project.

Common fish species are no doubt present in the river at the proposed breakwater site but the heavily silted bottom is relatively unattractive habitat for benthic organisms and spawning or feeding fish. The interstices in the existing rubble dikes likely provide the only quality habitat for small fish and aquatic insects, which in turn attract larger predatory fish.

3.3 Land Use

Current land use at the breakwater site is devoted exclusively to recreation with the marina and public open space. Shore facilities include roadways, parking, walking paths and lawn areas. The property adjacent to and downstream of the marina is industrial with a scrap metal facility in active operation.

The most significant commercial facility on the river front is the Alton Belle Riverboat Casino located immediately upstream of the marina. The casino's shore facilities include a ticket facility, a restaurant, offices and storage areas.

The marina complex is bounded on the north side by main lines of both Norfolk Southern Railway and the Union Pacific Railway. A spur line swings south to the river bank near the boat landing to service the Azcon facility.

US Highway 67 lies adjacent the railroad and crosses the river on the new Clark Bridge. The bridge passes over the top of the boat landing.

3.4 Cultural Resources

A Phase I Cultural Resource Survey was performed in June 1994 in conjunction with the Environmental Assessment that was prepared for the Alton Marina project. The survey was conducted by American Resources Group, Ltd., Carbondale, Illinois. The survey report indicated that "no evidence was found to indicate the presence of archaeological resources, historic or prehistoric" and that "the potential of existing archaeological resources, buried or surficial, within the Project Area is unlikely". The survey results and report were reviewed by the State of Illinois Historic Preservation Agency who concluded that "no further archaeological evaluation is warranted".

There are no known historic or prehistoric resources in the vicinity of the project. No buildings exist near the boat ramp. The entire riverfront has experienced extensive disturbance throughout Alton's history. Industrial development, razing, construction, filling,

grading and excavation have so thoroughly altered the riverfront that survival of any extant historic or prehistoric resources is considered extremely unlikely. Very little construction activity will take place on shore and no excavating will be done.

The State of Illinois Historic Preservation Agency has approved this project through the Comprehensive Environmental Review Process performed by Illinois DNR. The signed form used in this process is attached.

3.5 Local Socio-Economic Conditions

Alton's economy went through troubled times in the 1980's, primarily due to loss of local industries. The economy began to turn around when the Alton Belle Riverboat Casino went into operation in September 1991. This casino has become one of the linchpins of the local economy employing over 1,000 people and contributing substantially to Alton's tax revenues.

The Alton marina has also been a very successful development for the area and the community. The marina, the riverboat casino and the new Clark Bridge have resulted in a popular and attractive waterfront destination for visitors as well as for the local public. The waterfront has encouraged additional investment and greater economic activity in Alton's central business district.

The marina attracts transient boaters who utilize marina facilities and nearby businesses. The boat ramp is an important element in the riverfront facilities.

3.6 Aesthetics

Alton's greatest asset is its setting on the Mississippi River and the views available from the shoreline. The views of and from Alton's riverfront are attractive and aesthetically pleasing. Other aesthetic assets include the large open spaces on the riverfront and the views of and from the Clark Bridge.

The abandoned lock and dam and the old Clark Bridge were aesthetic liabilities but both have now been removed. The only remaining aesthetic liabilities are the railroad corridor and the adjacent industrial areas.

The boat ramp itself offers a pleasing panoramic view looking downriver as shown on Figure 3. The existing rubble mound dikes are not considered aesthetic liabilities.

4.0 Environmental Consequences

4.1 Impacts Common to All Alternatives

4.1.1 Biological Environment (Habitat/Vegetation & Threatened, Endangered, and Candidate Species). There will be no loss of wildlife habitat or vegetation of any consequence. A small patch of riparian vegetation will be lost where the proposed dike/wall intersects the shoreline. No Federal or State listed endangered, threatened or candidate species will be impacted by this project. The Federal Aid Section 7 Evaluation Form, indicating that impacts on all federally listed species within the state have been considered and documented, is attached.

4.1.2 Land Use. The area downstream of the boat ramp is devoted exclusively to commercial/industrial operations. Barges are employed in the operation of this facility. All boating activity at this site is commercial in nature and not compatible with the recreational boating at the Alton Marina. The proposed breakwater extension, regardless of which action alternative is pursued, will serve to separate and isolate marina activities from those at the industrial site. No other land use changes or impacts will result from any of the alternatives.

4.1.3 Cultural Resources. No cultural resources will be impacted by any of the alternatives.

4.1.4 Environmental Justice. Executive Order 1289, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, 59 Federal Register 7629 (1994), directs federal agencies to incorporate environmental justice in their decision making process. Federal agencies are directed to identify and address as appropriate, any disproportionately high and adverse environmental effects of their programs, policies, and activities on minority or low-income populations.

No environmental justice issues exist for any of the alternatives. No minority or low-income populations will be impacted by any of the alternatives.

4.1.5 Floodplain Impact. None of the alternatives will have any floodplain impacts.

4.1.6 Boating. Construction of any of the three action alternatives might result in a small increase in use of the boat ramp and marina services. The primary benefit is to improve launch conditions at the ramp and access to the fueling dock by eliminating the

silt deposition problem, which in turn serves to assure the long term viability of these marina services. All three action alternatives would provide adequate launch maneuverability. Alternative 1 provides 75 feet of maneuvering room while Alternatives 2 and 3 provide 130.

It is important that the boat ramp and marina remain attractive and serviceable to the boating public to attract new users, maintain existing user loyalties and prevent defection to nearby, competing marinas in the St. Charles and St. Louis areas. There is a boat harbor and ramp facility managed by Illinois DNR only 7 miles upstream at Piasa Creek Recreation Area that would attract boaters if the Alton ramp is not serviceable.

4.1.7 Cumulative Impacts. Increased boater activity could result in minor negative cumulative impacts to river resources by disrupting wildlife use of the river. A minor positive impact might occur by increasing interest in boating safety and awareness. Increased boating interest could also increase demand by transient boaters for boating services available in all area marinas.

No other cumulative impacts of any consequence have been identified.

4.2 Alternative 1 and Alternative 2

4.2.1 Biological Environment (Other Wildlife). Construction of the rubble mound dike will have a minor and temporary effect on a few benthic organisms as bottom silt is re-suspended during placement of the rock. The silt is expected to quickly resettle due to the lack of water currents in the construction area. The effect of re-suspended silt on water quality will be negligible and temporary.

The dikes will provide hiding and feeding habitat for small fish and attachment substrate for aquatic insects. These aquatic organisms will subsequently attract larger predatory fish. This is considered a minor, positive biological impact.

4.3 Alternative 3 (Sheet Pile Wall)

4.3.1 Aesthetics. The sheet pile wall will be unpainted steel and allowed to rust naturally. The top elevation of the sheet pile wall will be 425.0, the same as the top of the existing dike. The top 6 feet of the wall will be visible at the normal pool elevation of 419.0 and 11.5 feet visible at low water elevation of 413.5. Rusting sheet pile walls are a common feature at many riverside facilities including marinas but some observers would

consider the wall to be an aesthetic liability. An approximation of the wall's appearance can be imagined by looking at the photo, taken from the boat ramp, in Figure 3. The river beyond the wall will still be visible from the ramp, as it is above the existing dike at the right side of the photo.

4.3.2 Habitat Impacts. The small fish and aquatic insect habitat that would be created by the addition of the rubble mound dikes would not be experienced with Alternative 3.

4.4 No Action Alternative

4.4.1 Habitat Impacts. The small fish and aquatic insect habitat that would be created by the addition of the rubble mound dikes would not be experienced with the No Action Alternative.

4.4.2 Biological Impacts. No positive or adverse biological impact is expected. Status quo would be maintained.

4.4.3 Listed Species. No impact to threatened, endangered or candidate species is expected.

4.4.4 Floodplain Impact. No change to the floodplain or issues related to flooding is expected.

4.4.5 Socio-economic Impacts. Very minor negative economic impacts will result from the No Action Alternative. During periods of low water, use of the boat ramp and the fuel dock can be expected to decline due to siltation at both of these locations. Reduced ramp use will result in a reduction in the use of services provided at the marina. Silt build-up at the fuel dock will discourage local and transient boaters from using the fueling facility. Discouraged boaters might travel to other nearby marinas and ramps.

4.4.6 Aesthetics. Negative aesthetic impacts, which might be attributed to the installation of a rusty sheet pile wall, would not be experienced with the No Action Alternative.

4.4.7 Cultural Resources. No impact to cultural resources is expected.

4.4.8 Environmental Justice. No environmental justice issues exist on this project and no minority or low-income populations will be effected by the No Action Alternative.

4.4.9 Boating. A No Action Alternative will not solve the siltation problem at the boat ramp or at the fuel dock. Both facilities will experience reduced usage, particularly during periods of low river stages when boat launching is inhibited and fuel dock access is more difficult. Regular dredging will continue to be required in front of the ramp and at the fuel dock.

4.4.10 Cumulative Impacts. The reduced usage could result in negative cumulative impacts if boaters become discouraged by continued launch difficulties and begin traveling to more reliable ramp sites. No increased interest in boating safety and awareness would occur. Transient boaters will fuel elsewhere and/or select alternate destinations. Disruption of wildlife use would not increase.

4.5 Summary of Environmental Impacts by Alternative

Table 3 Environmental Consequences Summary

	Alternatives			
	Alternative 1 (Straight Dike)	Alternative 2 (Dog-Leg Dike)	Alternative 3 (Prop. Action)	No-Action Alternative
Habitat	Minor positive impact with creation of habitat for small fish and aquatic insects	Minor Positive Impact with creation of habitat for small fish and aquatic insects	No impact	No impact
Biological	No impact	No impact	No impact	No impact
Listed Species	No impact	No impact	No impact	No impact
Floodplain Impact	No impact	No impact	No impact	No impact
Socio-Economic	No impact	No impact	No impact	Negative impact resulting from reduced use of boat ramp and marina services
Aesthetics	No impact	No impact	Minor negative impact from rusty steel sheet pile wall	No impact

Table 3 Environmental Consequences Summary - Continued

	Alternatives			
	Alternative 1 (Straight Dike)	Alternative 2 (Dog-Leg Dike)	Alternative 3 (Prop. Action)	No-Action Alternative
Cultural Resources	No impact	No impact	No impact	No impact
Boating	Improved launch conditions at boat ramp and access to fuel dock, elimination of need for regular dredging, increased boater use of facilities and services	Improved launch conditions at boat ramp and access to fuel dock, elimination of need for regular dredging, increased boater use of facilities and services	Improved launch conditions at boat ramp and access to fuel dock, elimination of need for regular dredging, increased boater use of facilities and services	Reduced use of boat ramp, fuel dock and other marina services from frustrations at ramp and dock.
Cumulative Impacts	Minor negative wildlife disruption; Minor increase in boating safety and awareness interest.	Minor negative wildlife disruption; Minor increase in boating safety and awareness interest.	Minor negative wildlife disruption; Minor increase in boating safety and awareness interest.	No increase in wildlife disruption; No increase in boating safety and awareness interest.
Env. Justice	NA	NA	NA	NA
Neighboring Property	No Impact	Encroachment on downstream property.	No Impact	No Impact
Estimated Construction Cost	\$100,000	\$120,000	\$185,000	0
Estimated Annualized Dredging Costs	0	0	0	\$30,000

Source: Stanley Consultants, Inc.

5.0 List of Preparers

- Michael J. Knott, Senior Environmental Analyst, Stanley Consultants, Muscatine, Iowa – Primary Author
- Bradley W. Roeth, Civil Engineer, Stanley Consultants, Muscatine, Iowa – Reviewer

6.0 Consultation and Coordination with the Public and Others

- The City of Alton, Illinois
 - Phil Roggio, Director of Public Affairs
 - Rita Backstrom, Deputy Director
- Illinois Department of Natural Resources
 - Rose Ragland, Grant Administrator
 - Dick Pietruszka, Resource Review and Coordination
- US Fish & Wildlife Service
 - Ann Schneider, Division of Federal Aid, Fort Snelling, Minnesota
 - Jeff Gosse, NEPA Coordinator, Fort Snelling, Minnesota
 - Michael Thomas, Staff Biologist, Marion, Illinois Suboffice
- Skipper Marine Development
 - Bruce E. Lunde, Senior Project Manager
- American Resources Group, Ltd.
 - Michael McNerney, President, Archaeologist

Once the USF&WS has accepted the Draft EA, a news release soliciting public comments on the draft will be prepared by the USF&WS and distributed statewide by the External Affairs Office. The EA will also be posted on the USF&WS website. The City of Alton will also prepare a news release soliciting comments on the draft EA. After the required 30-day comment period, and assuming no additional revisions are necessary, the EA and supporting grant documents will then be considered eligible for approval.

7.0 Public Comment on Draft EA and Response

The USFWS will issue a news release informing the public of how they could get a copy of the draft EA. The USFWS will also post a copy of the draft EA on their NEPA web site (<http://midwest/fws.gov/NEPA/index.html>) to allow for additional review. In addition, copies will be placed at the Alton Library.

8.0 References

- *Alton, Illinois Marina/Riverfront District Environmental Assessment*, Booker Associates, Inc., St. Louis, Missouri. 1994.
- *Phase I Archaeological Survey, for Alton, Illinois Marina/Riverfront Environmental Assessment*, American Resources Group, Ltd., Carbondale, Illinois. 1994.
- *Alton Marina Breakwater Study*, Stanley Consultants, Muscatine, Iowa. 1997.